

Where is your water coming from?

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Fresh water thinking with the groundwater replenishment project. Credit: Water Corporation

With Perth experiencing one of the driest winters on record in 2015, innovative solutions to Perth's drinking water supplies have never been more crucial.

This week is National Water Week, held every year in October to build awareness and understanding of [water](#) issues living on the driest

continent on Earth.

With a 2015 theme of 'innovation', Water Corporation is leading the nation in developing new water sources and is currently building Australia's first full-scale groundwater replenishment scheme.

This is where treated wastewater undergoes further treatment at an Advanced Water Recycling Plant (AWRP) in a process which includes ultra-filtration, reverse osmosis and ultraviolet disinfection.

This removes chemicals and micro-organisms to meet Australia's strict drinking water guidelines.

The [recycled water](#) is then recharged into Perth's deep aquifers to mix with groundwater, and extracted years down the track for further treatment to be used as part of Perth's drinking water supply.

Water Corporation's General Manager of Asset Delivery, Mark Leathersich suggests groundwater replenishment will become the next climate independent water source for Perth, following on from desalination.

"We can no longer rely on rainfall to fill up our dams in the drying climate and groundwater replenishment has the potential to supply up to 20 per cent of Perth's drinking water by 2060," he says.

The Water Corporation's scheme is modelled on a similar system in Orange County California, which supplies around half of the county's drinking water.

The construction of the full-scale AWRP comes after a successful three year trial where around 3.8 billion litres of recycled water was recharged into groundwater supplies.

More than 80,000 water quality samples were taken before the decision was made to construct a full-scale plant, all of which met strict drinking water quality guidelines.

Another equally important aspect of the trial was to engage Perth people to explain the science behind groundwater replenishment so they could make up their own minds about the concept.

"This is the first time in Australia that groundwater replenishment will be used as a drinking water source, so explaining to people exactly how it works was really important to us." Mr Leathersich says.

According to Mr Leathersich, most Perth people are getting used to drier winters and understand the need to develop new water sources that do not rely on rainfall.

Perth's dams supply about 17 per cent of the [drinking water](#) through the Integrated Water Supply Scheme. The rest is sourced from groundwater (42 per cent) and desalination (41 per cent).

Construction and commissioning of the Craigie-based plant is expected to be finished by late 2016.

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